Elliot Epstein

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EDUCATION

Stanford University — **Stanford, California**
Ph.D. in Computational and Mathematical Engineering — Jul. 2022 – Jun. 2026
Master of Science in Computational and Mathematical Engineering (GPA: 4.10/4.30) — Sep. 2021 – Jun. 2026

- Coursework: Numerical Linear Algebra, Reinforcement Learning, Natural Language Processing, Optimization, Discrete Mathematics and Algorithms, Numerical and Theoretical PDEs, Stochastic Methods, Computer Systems, Theory of Statistics I-II, Probabilistic Graphical Models, Launchpad, Stanford Ignite

University of Oxford — **Oxford, United Kingdom**
Master of Science in Mathematical and Computational Finance — Sep. 2020 – Jul. 2021

KTH Royal Institute of Technology — **Stockholm, Sweden**
Bachelor of Science in Engineering Physics (GPA: 4.94/5.00) — Aug. 2017 – Aug. 2020

- Exchange Student at the Department of Mathematics at ETH Zurich from Sep. 2019 to Aug. 2020
- Thesis: "A Review of the Article *Gradient Descent Provably Optimizes Over-parametrized Neural Networks*"

WORK EXPERIENCE

Google — **Sunnyvale, California & Seattle, Washington**
PhD Software Engineering Intern, Gemini — Jun. 2024 – Sep. 2024

- Outcome: Research paper "MMMT-IF: A Challenging Multimodal Multi-Turn Instruction Following Benchmark"

Student Researcher — Oct. 2023 – Jan. 2024
Software Engineering Intern — Jun. 2023 – Sep. 2023

- Worked on an LLM-based chatbot for enterprise solutions

Stanford University — **Stanford, California**
Research Assistant — Sep. 2022 – Apr. 2023

- Long sequence modeling with Prof. Christopher Re in the Stanford AI Lab

Research Assistant — Apr. 2022 – Sep. 2022

- Machine learning to solve PDEs in Prof. Eric Darve's lab

EDF Trading — **London, United Kingdom**
Intern, Quant and Data Group — Apr. 2021 – Aug. 2021

- Developed a model in Python to predict the direction of the next trade of day ahead gas futures with 70 percent accuracy using LOB data and an ensemble of LSTM networks trained on a cloud GPU cluster

Karolinska Institute — **Stockholm, Sweden**
Research Assistant — Aug. 2019 – Apr. 2021

- Developed a deep learning model to differentiate benign from malignant ovarian tumors, with specificity and sensitivity on par with an expert ultrasound examiner

SERVICE

Stanford University — **Stanford, California**
Course Assistant — 2022 – 2024

- *Applied Data Science (CME 218):* Mentoring graduate students working on machine learning projects
- *Partial Differential Equations (MATH 220)*
- *Machine Learning (CS 229):* Supervised learning (deep learning), unsupervised learning, reinforcement learning
- *Financial Risk Analytics (MS&E 246):* Statistics and machine learning applied to credit markets
- Investment Science *(MS&E 245A, MS&E 245B)*

Admissions Committee: Stanford MS in Data Science — *2024*

International Conference on Learning Representations (ICLR)
Reviewer — 2024, 2025

PUBLICATIONS

Elliot L. Epstein, Kaisheng Yao, Jing Li, Xinyi Bai, and Hamid Palangi. MMMT-IF: A Challenging Multimodal Multi-Turn Instruction Following Benchmark
In *Statistical Foundations of LLMs and Foundation Models workshop at NeurIPS,* 2024

Elliot L. Epstein∗, Daniel Y. Fu∗, Eric Nguyen, Armin W. Thomas, Michael Zhang, Tri Dao, Atri Rudra, and Christopher Re. Simple Hardware-Efficient Long Convolutions for Sequence Modeling
In *ICML: Fortieth International Conference On Machine Learning,* July 2023
In *Mathematical and Empirical Understanding of Foundation Models workshop at ICLR,* 2023

F Christiansen, **E L Epstein**, E Smedberg, M Åkerlund, K Smith, E Epstein. Ultrasound image analysis using deep neural networks for discriminating between benign and malignant ovarian tumors: comparison with expert subjective assessment
In *Ultrasound Obstet Gynecol,* 2021

SKILLS

Proficient in**:** Python (NumPy, PyTorch, Jax, TensorFlow, LangChain, pandas, Flask), Linux, LaTeX
Experienced in: C++, C, MATLAB, Git, Bloomberg Terminal, GCP, Assembly, AWS, Docker, R